

In response to the first office action, Claim 1 was also amended to recite that the size of the nanocrystals determines the color, as is clearly recited in the spec. This feature was presented in both prior responses, e.g. at page 3 of the first response and pages 3-4 of the second response. **Thus the present amendment does not raise any new issue.** The PTO has never responded to this issue and never shown that this feature is taught by the references.

Applicant has previously shown that this feature is not shown by the primary reference for all the rejections, Bhargava I, which only shows displays based on doped nanocrystal (DNC) phosphors (see title; abstract; col. 1, lines 61-67; col. 2, lines 1-31). The nanocrystal is a host, col. 5, lines 14, 55. The color is determined by the dopant, e.g. Mn for yellow, Tm for blue, Tb for green, and Eu for red, col. 2, lines 8-25; col. 4, lines 8-19; col. 5, lines 26-27. It is explicitly shown that the size does not determine the color; the nanocrystal size affects the quantum efficiency of the dopant emission, not its color, Fig. 3; col. 2, lines 50-52; col. 5, lines 40-43.

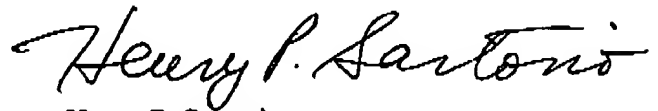
By contrast, Applicant uses the size of the nanocrystal to determine the color, i.e. the color is produced by selecting nanocrystals of the right size to produce that color.

Applicant's amended Claim 1 recites nanocrystals where the nanocrystal sizes determine the color. This feature is not found in Bhargava I. To support a proper 102 rejection, each feature and limitation in the claims must be found in the reference. Since the features and limitations of base Claim 1 are not taught or suggested by Bhargava I, Claim 1 is deemed allowable, and all dependent claims should also be patentable. Therefore it is submitted that all the rejections have been obviated.

Thus, while Applicant believes that there is support to claim undoped nanocrystals since there is no mention whatsoever of doping, and color is controlled by size so there would not be any dopant present which would control color, Applicant does not need to rely on this feature for patentability since the feature of color controlled by size distinguishes over the art. Therefore, it is submitted that this amendment raises no new issues which would require further consideration and/or search. Accordingly entry is respectfully requested.

Respectfully submitted,

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Henry P. Sartorio
Attorney for Applicant
Reg. No. 28,535

APPENDIX

Version with markings to show changes.

IN THE SPECIFICATION:

Page 5, line 4, the new paragraph added in the prior response is deleted:

[The nanocrystals used in this invention are undoped and nanocrystal size is used to determine color.]

IN THE CLAIMS:

Claim 1 is amended as follows:

1. (Twice Amended) A multicolor display apparatus, comprising:
an array of [undoped] semiconductor nanocrystals arranged to form a plurality of pixels of different colors, wherein the sizes of the nanocrystals determine the colors;
a pixel addressing system operatively associated with the nanocrystal array for selectively optically exciting the nanocrystals to produce a luminescent color pattern of pixels.